

**REMARKS/ARGUMENTS**

Each of claims 1 and 14 has been amended to recite that the polymeric organic filler “comprises a compound selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, or a homopolymer of vinylidene chloride.” Support for the amendment is found in the as-filed specification at at least paragraph [0030]. Each of claims 10 and 17 has been amended to recite that the insulation material further includes at least one of at least one antioxidant, at least one cure accelerator, at least one cure activator, at least one tackifier, and at least one plasticizer. Support for the amendment is found in the as-filed specification at at least paragraph [0033]. No new matter has been added.

The Office Action mailed June 3, 2005, has been received and reviewed. Claims 1-20 are currently pending in the application. Applicant affirms the provisional election to prosecute the invention of Group II, claims 7-20, with traverse. Claims 1-6 have been withdrawn from consideration as being drawn to a nonelected invention. Claims 7-20 stand rejected. Claims 4, 12, 13, and 19 have been canceled without prejudice or disclaimer. Applicant has amended claims 1, 7, 9, 10, and 14-18 and respectfully requests reconsideration of the application as amended herein.

While claims 1-6 have been withdrawn from consideration, Applicant respectfully submits that these claims should be considered by the Examiner because the claims recite subject matter that is patentable and is already under consideration by the Examiner. Specifically, claims 1-6 are directed to an insulation material, which is recited as part of claims 7-20. Since claims 7-20 recite the insulation material, the subject matter of claims 1-6 is currently under consideration by the Examiner. Further, the other elements of claim 7, in addition to the insulation material, comprise only a rocket motor case and propellant, the insulation material being disposed there between. As such, claims 1-6 should be rejoined with claims 7-20. Applicant has amended claims 1-6 to recite the patentable subject matter of claims 7-20 and, therefore, submits that these claims are allowable.

**Preliminary Amendment**

Applicant’s undersigned attorney notes the filing herein of a Preliminary Amendment on September 29, 2003, which filing was not acknowledged in the outstanding Office Action.

Should the Preliminary Amendment have failed for some reason to have been entered in the Office file, Applicant's undersigned attorney will be happy to have a true copy thereof hand-delivered to the Examiner.

### **Objections to Specification**

The specification stands objected to as "failing to provide proper antecedent basis for the claimed subject matter." Office Action of June 3, 2005, p. 3. The Examiner states that "there is no support in the specification for all noncyclic hydrocarbons as recited in claims 10 and 17." *Id.* Applicant has deleted this subject matter from claims 10 and 17, rendering the objection moot. As such, Applicant respectfully requests that the objection be withdrawn.

### **35 U.S.C. § 112 Claim Rejections**

Claims 7-20 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses this rejection, as hereinafter set forth.

Claims 7-20 are definite because the public would be informed of the boundaries of what constitutes infringement of the claims of the patent based upon the disclosure of the as-filed application. "The primary purpose of this requirement of definiteness of claim language is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent." M.P.E.P. § 2173. "Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) The content of the particular application disclosure; . . . and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." *Id.* at § 2173.02.

The Examiner states that "it is not made clear if the flame retardant and polymeric organic filler are necessarily distinct ingredients since the polymeric organic filler can also behave as a flame retardant." Office Action of June 3, 2005, p. 4. However, reference to the as-filed specification clearly discloses that the claimed insulation material includes at least one flame-retardant and a polymeric organic filler as distinct ingredients. See paragraphs [0028]-[0030] of the as-filed application. While paragraph [0032] of the as-filed specification discloses

that the polymeric organic filler acts as a flame-retardant, the cited section also discloses that the polymeric organic filler acts in synergism with the flame-retardants. As such, both the polymeric organic filler and the at least one flame-retardant are present in the insulation material and are clearly distinct ingredients. Based upon the content of the as-filed application, a person possessing the ordinary level of skill in the pertinent art at the time the invention was made would interpret the claims to require that the at least one flame-retardant and the polymeric organic filler be distinct ingredients in the claimed insulation material.

Since each of claims 7-20 particularly point out and distinctly claim the subject matter which Applicant regards as the invention, the indefiniteness rejection of these claims is improper and should be withdrawn.

### **35 U.S.C. § 102 Anticipation Rejections**

#### **Anticipation Rejection Based on U.S. Patent No. 4,878,431 to Herring**

Claims 7, 8, 14, 15, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,878,431 to Herring ("Herring"). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Herring discloses an elastomeric lining material for use in a rocket motor. Herring at column 1, lines 11-14. The elastomeric lining material includes an elastomeric polymer that is substantially saturated and an elastomeric polymer that is substantially unsaturated. *Id.* at column 2, lines 24-27. The substantially saturated elastomeric polymer includes polychloroprene, chlorosulfonated polyethylene, polyurethane, and ethylene propylene diene monomer ("EPDM") and the substantially unsaturated elastomeric polymer is a polyisoprene. *Id.* at column 3, lines 54-57 and column 4, lines 25-28. The elastomeric lining material also includes char-forming organic fibers and organic or inorganic particulates. *Id.* at column 2, lines 27-35. The char-forming organic fibers are polyaramide pulp fibers. *Id.* at column 3, lines 1-4.

The organic or inorganic particulates include hydrated silica, mica, quartz, or chlorinated hydrocarbon compounds. *Id.* at column 4, lines 34-46.

The anticipation rejection of amended claim 7 is improper because Herring does not expressly or inherently describe each and every element of the claim. Herring does not expressly or inherently describe that “the insulation material consist[s] essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride,” as recited in claim 7. Herring does not expressly or inherently describe this element because the elastomeric insulating material of Herring does not include a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride. Therefore, Herring does not “consist essentially of” the ingredients recited in claim 7. Herring also does not disclose that its elastomeric insulating material includes polyvinyl chloride, polyphenylene sulfide, melamine, or a homopolymer of vinylidene chloride and, therefore, does not disclose the recited polymeric organic filler.

Since Herring does not expressly or inherently describe each and every element of claim 7, the anticipation rejection is improper and should be withdrawn.

Claim 8 is allowable, *inter alia*, as depending from an allowable base claim.

Herring also does not expressly or inherently describe each and every element of amended claim 14 because Herring does not disclose the element of “producing an insulation material consisting essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride.” Since Herring does not disclose any of the compounds recited as the polymeric organic filler, Herring does not anticipate the claimed invention for substantially the same reasons as discussed above for claim 7. In addition, Herring does not anticipate the claimed invention because its elastomeric insulating material does not “consist essentially of” the recited ingredients.

Since Herring does not expressly or inherently describe each and every element of claim 14, the anticipation rejection is improper and should be withdrawn.

Claims 15 and 20 are allowable, *inter alia*, as depending from an allowable base claim.

Anticipation Rejection Based on U.S. Patent No. 6,566,420 to Guillot *et al.*

Claims 7-11, 14-18, and 20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,566,420 to Guillot *et al.* (“Guillot”), which was cited as WO 00/43445 on the IDS dated June 26, 2003. Applicant respectfully traverses this rejection, as hereinafter set forth.

Guillot discloses an EPDM formulation that is used to insulate a solid propellant rocket motor. Guillot at column 1, lines 19-25. The EPDM formulation includes a primary or secondary terpolymeric base having an EPDM terpolymer formed from an alkylidene norbornene. *Id.* at column 8, lines 24-67. The EPDM formulation also includes adhesion promoting secondary polymers, antioxidants, tackifiers, wetting agents, curing activators, fillers, pigments, plasticizers, or silica. *Id.* at column 9, lines 23-60. The adhesion promoting secondary polymers include chlorosulfonated polyethylene or polychloroprene. *Id.* Aramid fibers are also used in the EPDM formulation, as are metal oxide flame retardants or halogen-containing flame retardants. *Id.* at column 23, lines 39-51, Table 4, and Table 18.

The anticipation rejection of amended claim 7 is improper because Guillot does not expressly or inherently describe each and every element of the claim. Guillot does not expressly or inherently describe the element of “the insulation material consisting essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride” because Guillot does not disclose that its EPDM formulation includes any of the compounds recited as the polymeric organic filler. In addition, the EPDM formulation of Guillot does not “consist essentially of” the ingredients recited in claim 7.

Since Guillot does not expressly or inherently describe each and every element of claim 7, the anticipation rejection is improper and should be withdrawn.

Claim 8-11 are allowable, *inter alia*, as depending from an allowable base claim.

Guillot also does not expressly or inherently describe each and every element of amended claim 14 because Guillot does not disclose the element of “producing an insulation material consisting essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride.” Since Guillot does not disclose any of the compounds recited as the polymeric organic filler, Guillot does not anticipate the claimed invention for substantially the same reasons as discussed above for claim 7. In addition, the EPDM formulation of Guillot does not “consist essentially of” the ingredients recited in claim 14.

Since Guillot does not expressly or inherently describe each and every element of claim 14, the anticipation rejection is improper and should be withdrawn.

Claims 15-18 and 20 are allowable, *inter alia*, as depending from an allowable base claim

### **35 U.S.C. § 103(a) Obviousness Rejections**

#### Obviousness Rejection Based on Herring in View of U.S. Patent No. 4,246,359 to Whelan

Claims 9-13 and 16-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Herring in view of U.S. Patent No. 4,246,359 to Whelan (“Whelan”). Claims 12, 13, and 19 have been canceled, rendering moot the rejections as to these claims. Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for an obviousness rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The obviousness rejection of dependent claims 9-11 and 16-18 is improper because the cited references do not teach or suggest all of the claim limitations.

The teachings of Herring are as described above.

Whelan teaches a flame-retarded elastomeric composition that includes a diene elastomer. Whelan at column 1, lines 59-66. The diene elastomer is a homopolymer of a hydrocarbon conjugated diene or a copolymer of the hydrocarbon conjugated diene with an ethylenically unsaturated comonomer, such as a styrene-butadiene rubber. *Id.* at column 2, lines 7-39 and Example 1. The elastomeric composition is flame retardant due to the presence of a combination of a halogen-containing organic compound, alumina trihydrate, and iron oxide. *Id.* at column 1, line 66 through column 2, line 6. The halogen-containing organic compound is polychloroprene, chlorinated polyethylene, chlorinated polyvinyl chloride, polyvinylidene chloride, chlorosulfonated polyethylene, and epichlorohydrin copolymers or polymers. *Id.* at column 3, lines 19-32.

Claims 9-11 are allowable, *inter alia*, as depending from an allowable base claim.

Each of claims 9-11 is dependent on claim 7 and, therefore, includes all of the limitations of claim 7. The cited references do not teach or suggest all of the limitations of claim 7 because Herring and Whelan, when combined, do not teach or suggest that “the insulation material consist[s] essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride.” Herring does not teach or suggest this limitation for substantially the same reasons as previously discussed in regard to the anticipation rejection of claims 7, 8, 14, 15, and 20. Whelan does not cure the deficiencies in Herring because Whelan also does not teach or suggest that its EPDM formulation “consists essentially of” the recited ingredients.

Claims 16-18 are allowable, *inter alia*, as depending from an allowable base claim.

Each of claims 16-18 depends on claim 14 and, therefore, includes all of the limitations of claim 14. The cited references do not teach or suggest all of the limitations of claim 14 because Herring and Whelan, when combined, do not teach or suggest “producing an insulation material comprising a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene sulfide, melamine, and a homopolymer of vinylidene chloride.” Herring does not teach or suggest this limitation for substantially the same reasons as previously

discussed. Whelan does not cure the deficiencies in Herring because Whelan also does not teach or suggest that its EPDM formulation “consists essentially of” the recited ingredients.

Since the cited references do not teach or suggest all of the limitations of claims 9-11 and 16-18, the obviousness rejection of these claims is improper and should be withdrawn.



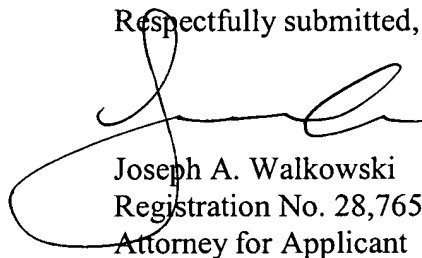
**ENTRY OF AMENDMENTS**

The amendments to claims 1, 7, 9, 10, and 14-18 should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application.

**CONCLUSION**

Claims 1-3, 5-11, 14-18, and 20 are believed to be in condition for allowance and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain that might be resolved by a telephone conference, she is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Walkowski', is written over the typed name and title.

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